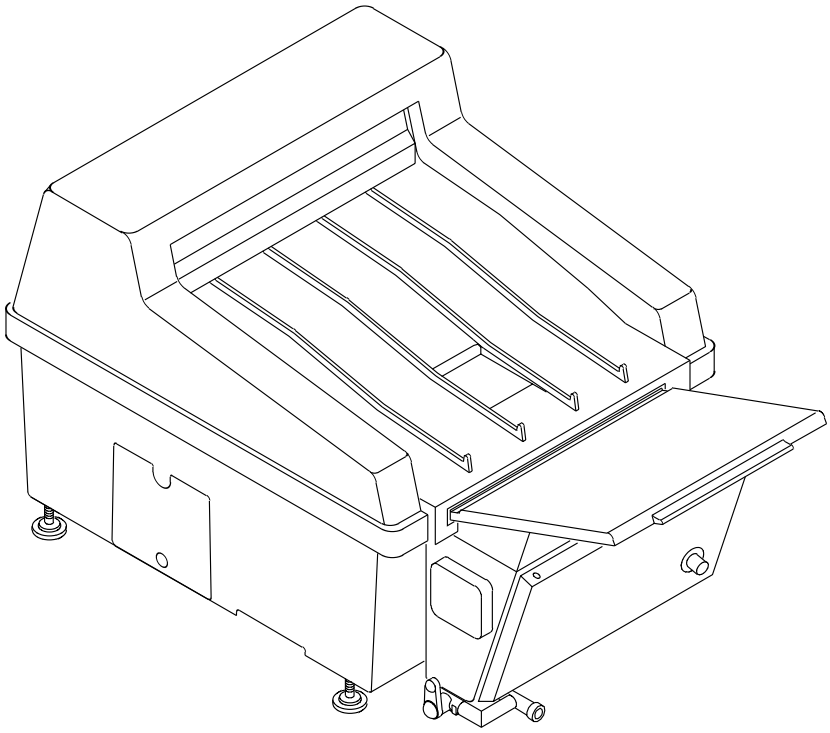
Publication No. 9B8948
10SEP02
Supersedes 9B8948
15JUN98

INSTALLATION INSTRUCTIONS
for the
Kodak X-Omat 1000, 1000A and 1000J PROCESSOR
Service Code: 3482

Important
Qualified service personnel must install this equipment.



H164_0007HC

HEALTH IMAGING

Confidential
Restricted Information
© Eastman Kodak Company, 2002

PLEASE NOTE The information contained herein is based on the experience and knowledge relating to the subject matter gained by Eastman Kodak Company prior to publication.

No patent license is granted by this information.

Eastman Kodak Company reserves the right to change this information without notice, and makes no warranty, express or implied, with respect to this information. Kodak shall not be liable for any loss or damage, including consequential or special damages, resulting from any use of this information, even if loss or damage is caused by Kodak's negligence or other fault.

This equipment includes parts and assemblies sensitive to damage from electrostatic discharge. Use caution to prevent damage during all service procedures.

Table of Contents

Description	Page
Safety	3
Necessary Materials	4
Tools	4
Publications	4
Unpacking the PROCESSOR	5
Components	6
Frequency and Voltage of the PROCESSOR	7
Setting the Frequency of the PROCESSOR	7
Checking and Setting the Voltage of the PROCESSOR	9
Installing the PROCESSOR	11
Connecting the Plumbing	11
Installing the FEED TRAY	12
Leveling the PROCESSOR	13
Checking the Operation of the PROCESSOR	14
Checking the PROCESSOR	15
Setting Up the PROCESSOR	15

Section 1: Safety

Warning

To prevent damage to personnel, keep floors and drains around your *Kodak X-Omat* PROCESSOR clean and dry at all times. Any fluids from mixing tanks, and drain lines should be cleaned up immediately. If fluid is on the floor because of an overflow or other malfunction of the drain, call a qualified person to correct any problem with the drain. Kodak is not responsible for the serviceability of any drain connected to a *Kodak X-Omat* PROCESSOR. Drains are the responsibility of the customer.

This information defines the safety and information icons used in this publication.

Warning

This icon is used for conditions that could cause personal injury.

Caution

This icon is used for conditions that could cause damage to equipment or software data.

ESD

Possible damage from electrostatic discharge.

This icon is used for conditions that could cause damage to the equipment.

Electrostatic discharge (ESD) is a primary source of:

- equipment failure
- low productivity
- equipment repairs

A person cannot feel a static charge of less than 3,500 V, but 30 V can cause damage to components in the equipment.

Preventive Measures

- Check for an ESD WARNING LABEL before doing any procedure with static-sensitive components. All static-sensitive components have graphic LABELS that frequently include instructions. Use all label instructions.
- Wear a GROUNDING STRAP when you touch static-sensitive components. Check that the CLIP remains fastened to a ground that has a clean surface with no paint.
- Repair static-sensitive components in an ESD-protected area or use a PORTABLE GROUNDING MAT.
- When moving static-sensitive components from area to area, insert and transport the components in ESD-protective material.

Important

This icon is used for important information.

Note

This icon is used for additional information.

Section 2: Necessary Materials

Tools

Part No.	Description
-------	LEVEL
-------	MAGNETS

Publications

Publication No.	Description
9B8949	SERVICE MANUAL for the *Kodak X-Omat* 1000, 1000A, and 1000J PROCESSOR
9B8942	OPERATOR MANUAL for the *Kodak X-Omat* 1000, 1000A, and 1000J PROCESSOR

Section 3: Unpacking the PROCESSOR

Important

- The *Kodak X-Omat* 1000, 1000A, and 1000J PROCESSORS and accessories are each packed in 2 cartons.
- If the 2 cartons have damage, do not unpack. Make a call to the shipment COMPANY.
- When removing packing material, be careful not to cut through the wrapping material which can cause damage to components.
- The cartons include parts which are not used in every installation.

[1] Open the 2 cartons.

[2] Remove:

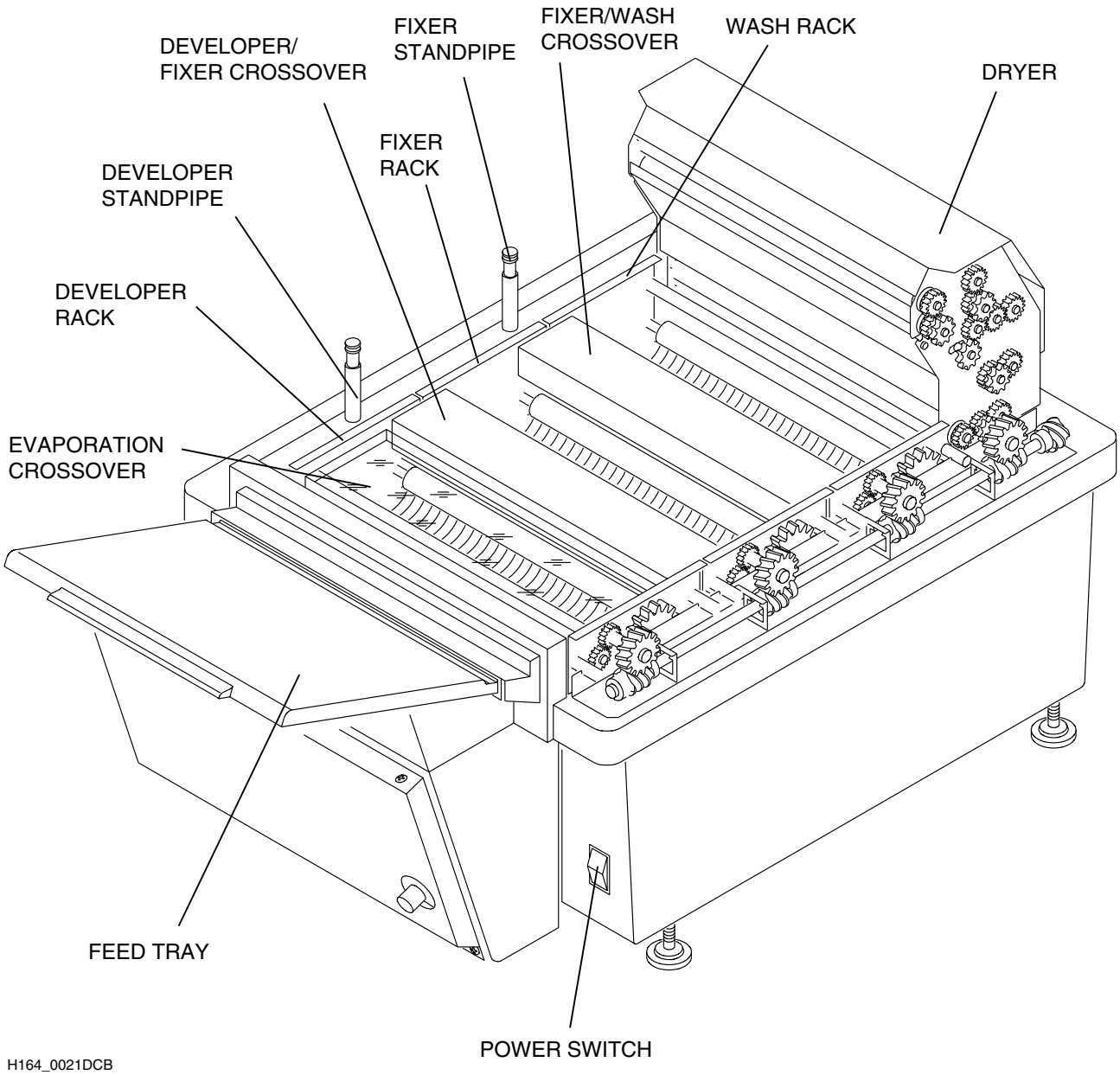
- packing material
- contents

[3] Use the packing list to check that all items are included.

[4] Remove all tape from the PROCESSOR.

[5] Keep all parts not used in the installation for replacement parts.

Section 4: Components



H164_0021DCB
H164_0021DC

Important

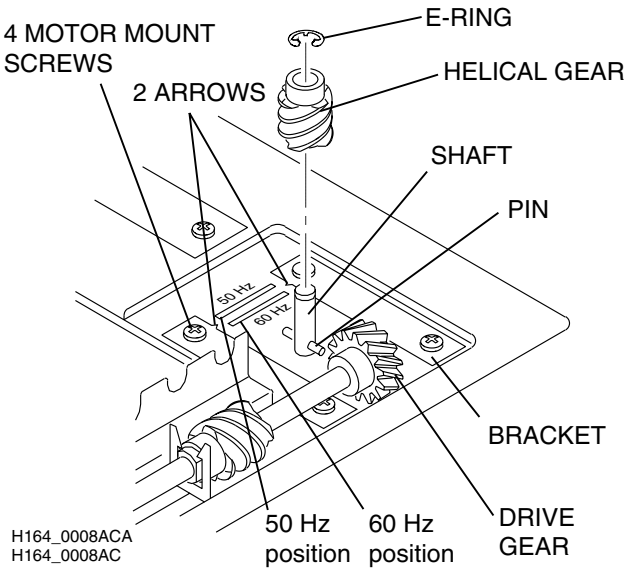
Do not install the RACKS at this time.

[1] Use this graphic for reference during the installation of the PROCESSOR. Some of the components are labeled:

Component	Label
Developer	Red
Fixer	Blue
Wash	White, or no label

Section 5: Frequency and Voltage of the PROCESSOR

Setting the Frequency of the PROCESSOR



Important

You must set the frequency of the PROCESSOR to the frequency of the main power at the site.

[1] Determine if the frequency of the main power at the site is 50 Hz or 60 Hz.

[2] Check that the PROCESSOR has the correct HELICAL GEAR for the frequency at the site.

Frequency	HELICAL GEAR
50 Hz	White
60 Hz	Black

[3] Does the PROCESSOR have the correct HELICAL GEAR?

Yes	No
Advance to Step 12.	Continue with Step 4.

[4] Remove:

- E-RING - keep
- HELICAL GEAR - discard

Important

Do not remove the 4 MOTOR MOUNT SCREWS.

[5] Loosen the 4 MOTOR MOUNT SCREWS.

[6] Install the correct HELICAL GEAR.

[7] Engage the groove on the HELICAL GEAR with the PIN on the SHAFT.

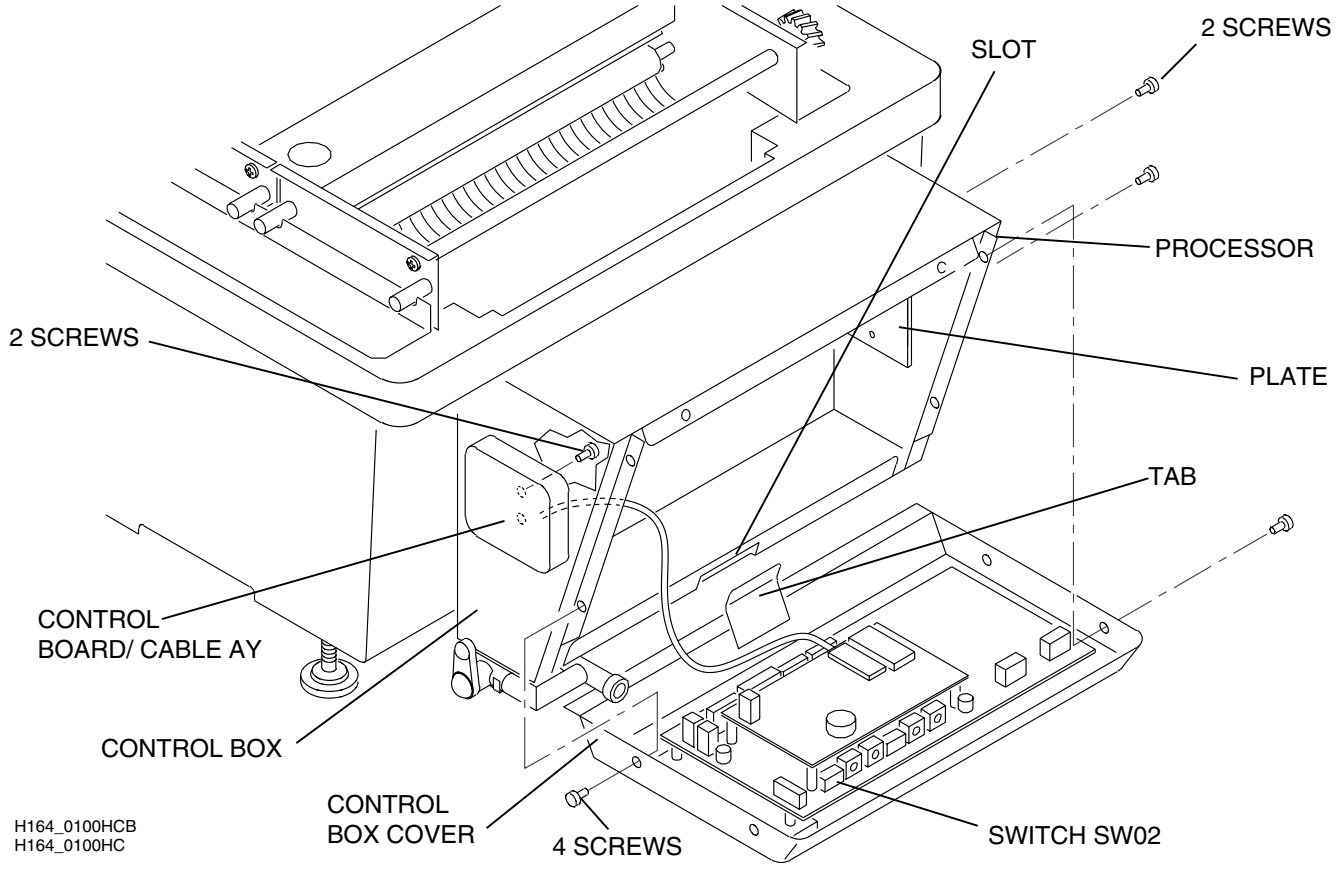
[8] Install the E-RING.

[9] Move the BRACKET until the 2 ARROWS align with the correct frequency position:

Frequency	Position
50 Hz	50 Hz
60 Hz	60 Hz

[10] Check that the HELICAL GEAR and the DRIVE GEAR engage with minimum play.

[11] Tighten the 4 MOTOR MOUNT SCREWS.



ESD
Possible damage from electrostatic discharge.

[12] Remove:

- 4 SCREWS
- CONTROL BOX COVER

[13] Place the TAB on the CONTROL BOX COVER into the SLOT.

[14] Locate SWITCH SW02.

[15] Move DIP SWITCH SW02-1 on SWITCH SW02 to the correct position for the frequency:

Frequency	Position
50 Hz	“ON”
60 Hz	“OFF”

[16] Check that the other DIP SWITCHES on SWITCH SW02 are in the “OFF” position:

- SW02-2
- SW02-3
- SW02-4

[17] If necessary, move the CONTROL BOARD/CABLE AY to the other side of the CONTROL BOX.

(a) Remove:

- 2 SCREWS
- CONTROL BOARD/CABLE AY
- 2 SCREWS
- PLATE

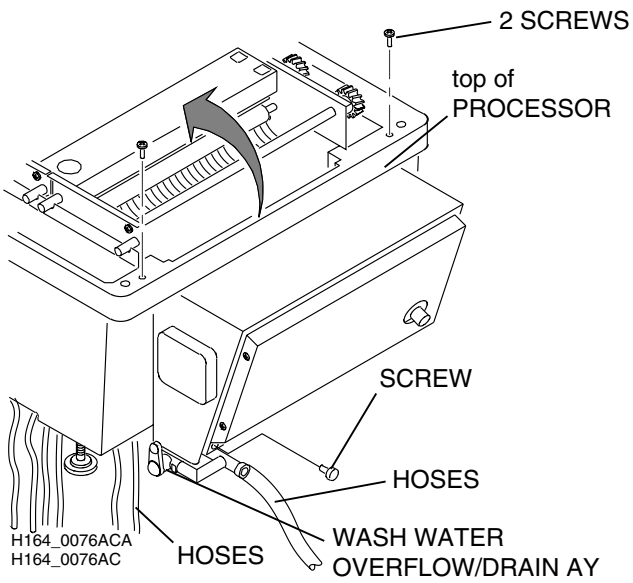
(b) Install:

- CONTROL BOARD/CABLE AY on other side of CONTROL BOX
- 2 SCREWS
- PLATE on other side of the CONTROL BOX
- 2 SCREWS

Checking and Setting the Voltage of the PROCESSOR

[1] Determine the PROCESSOR to be installed:

PROCESSOR	Do:
1000A or 1000J	"Installing the PROCESSOR" on Page 11.
1000	Continue with Step 2.



[2] Remove:

- 2 SCREWS
- SCREW from WASH WATER OVERFLOW/ DRAIN AY

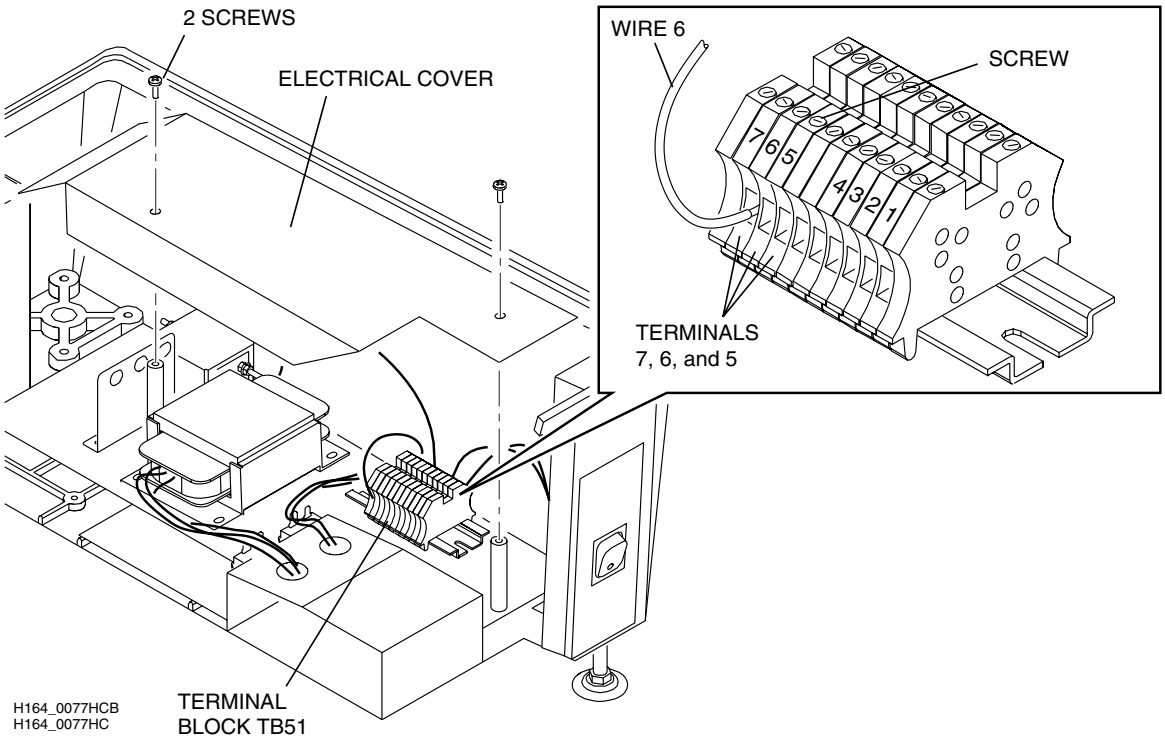
Warning

Prevent damage to personnel and equipment.

[3] Slowly open the top of the PROCESSOR.

[4] Hold the top of the PROCESSOR up to prevent the top from falling.

[5] Feed the HOSES into the PROCESSOR.



[6] Remove:

- 2 SCREWS
- ELECTRICAL COVER

Important

The voltage must be approximately 220, 230 or 240 V AC.

[7] Determine the voltage of the main power at the site.

[8] Locate the TERMINAL BLOCK TB51.

[9] Move WIRE 6 to the correct TERMINAL for the voltage:

Voltage at Site	TERMINAL on TB51
220 V AC	5
230 V AC	6
240 V AC	7

[10] Tighten the SCREW.

[11] Install:

- ELECTRICAL COVER
- 2 SCREWS

Important

Be careful not to bend the HOSES when you close the PROCESSOR.

[12] Close the top of the PROCESSOR.

[13] Pull the HOSES from the PROCESSOR.

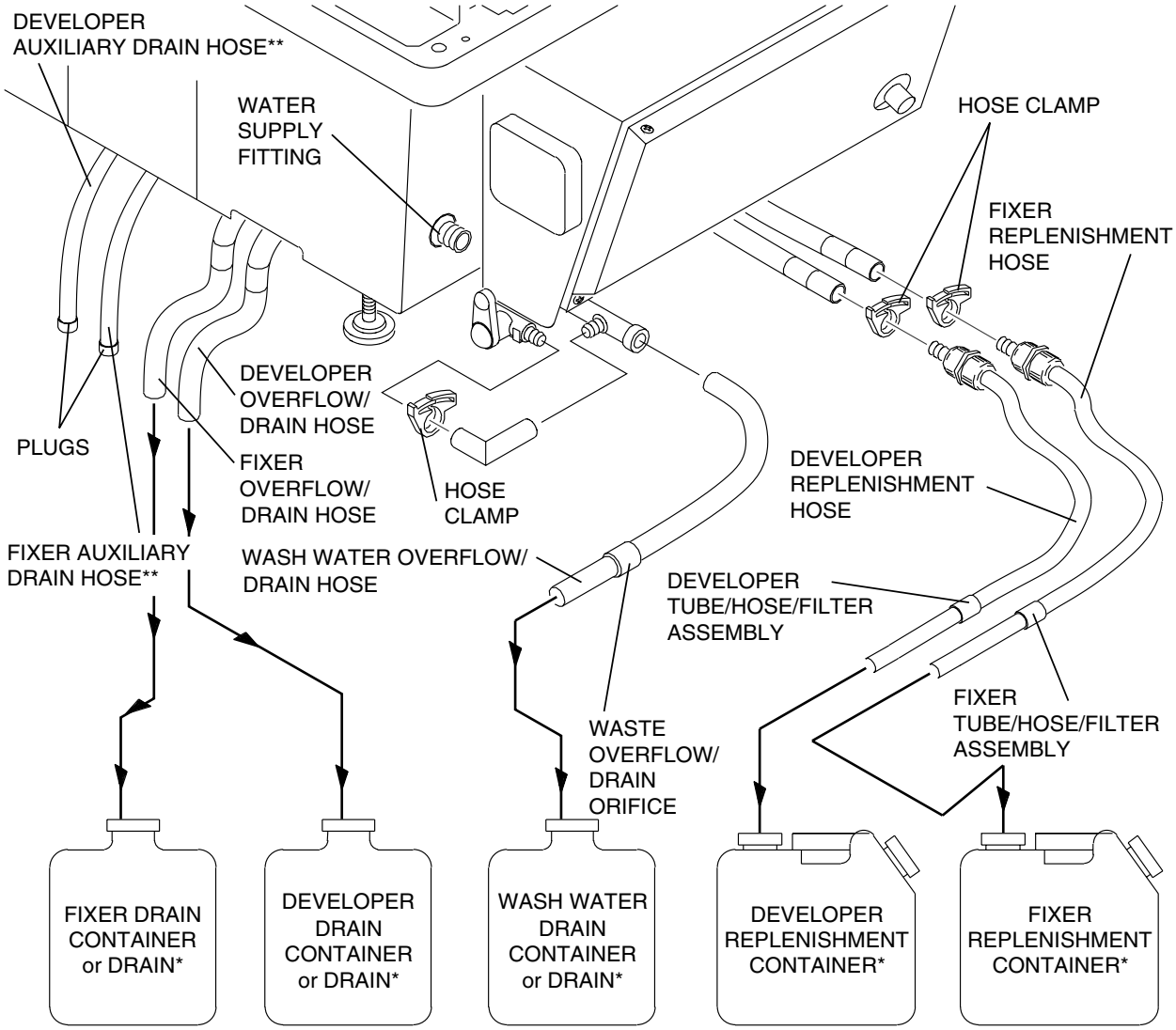
[14] Install:

- SCREW for the WASH WATER OVERFLOW/DRAIN AY
- 2 SCREWS for the top of the PROCESSOR

[15] Record the internal voltage setup on the DATA PLATE on the back of the PROCESSOR.

Section 6: Installing the PROCESSOR

Connecting the Plumbing



H164_0097DCA
H164_0097DC

* CONTAINERS NOT SUPPLIED WITH PROCESSOR

** The PLUGS are only removed from the AUXILIARY DRAIN HOSES when all the chemistry is being drained from the system.

Warning

- Drains must be made of material that has resistance to chemicals.
- The recommended material for the drains is PVC. Do not use copper or brass.
- The drain must be a minimum of 7.6 cm (3 in.) and be free of obstruction.
- Drain service must match the local codes.
- The components of the PROCESSOR are identified by labels:
  - Developer HOSES have red labels.
  - Fixer HOSES have blue labels.
  - Wash HOSES either have white labels, or no labels.
- Do not remove the PLUGS from the DEVELOPER or FIXER AUXILIARY DRAIN HOSES.
- Use a 50 micron FILTER for the water supply.

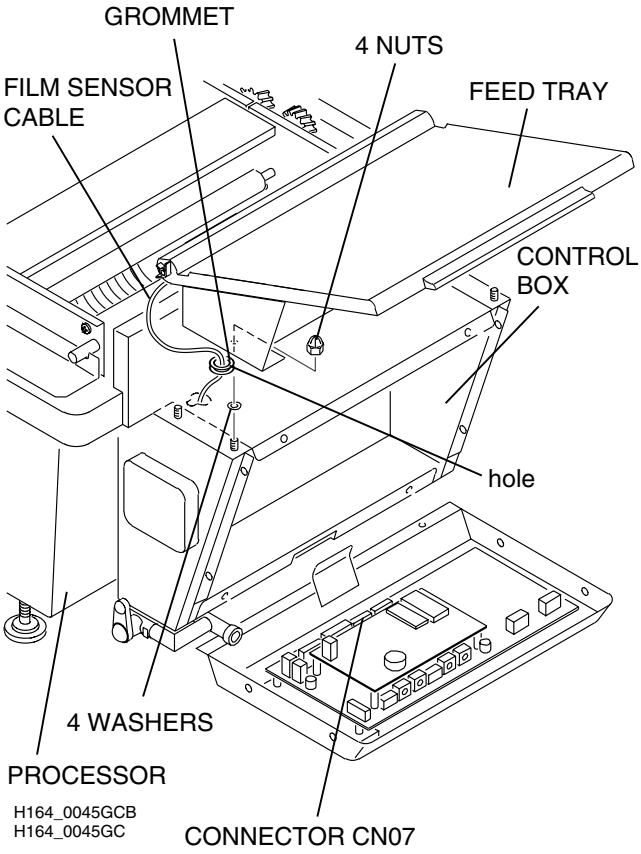
Important

If you are using hard plumbing for the WATER SUPPLY, you must use the ADAPTER in the PREPACK.

[1] Connect:

- HOSES - see the graphic
- PROCESSOR to the WATER SUPPLY

Installing the FEED TRAY



ESD

Possible damage from electrostatic discharge.

[1] Remove:

- 4 NUTS
- 4 WASHERS

[2] Insert the FILM SENSOR CABLE through the hole in the top of the CONTROL BOX.

[3] Press the GROMMET on the CABLE into the hole on the CONTROL BOX.

Important

Do not tighten the 4 NUTS.

[4] Install:

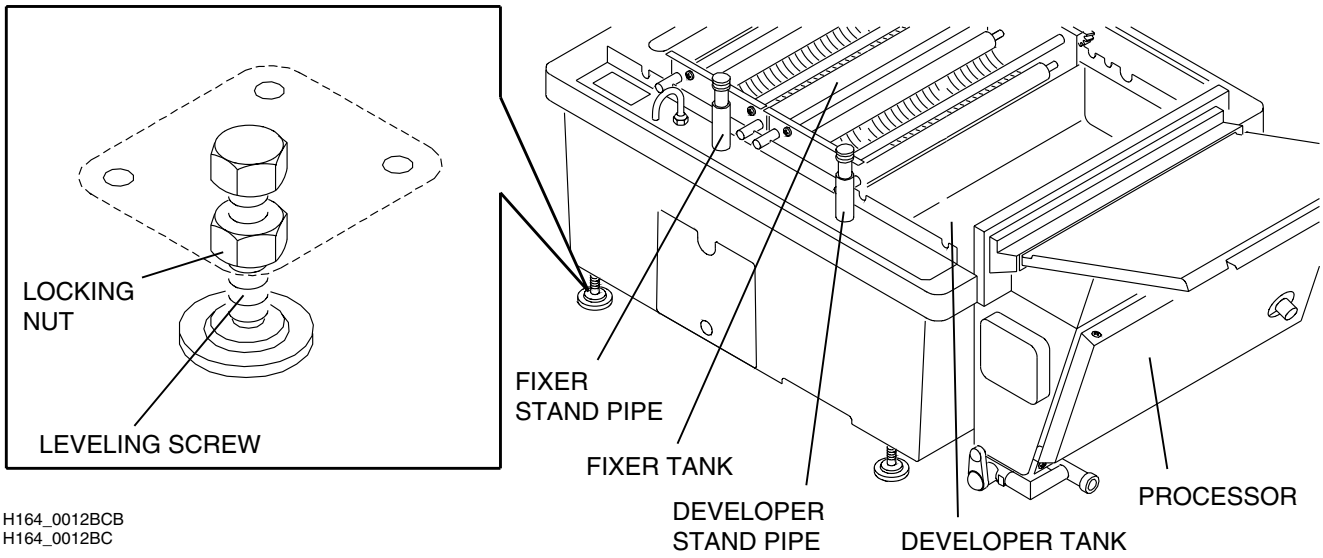
- FEED TRAY
- 4 WASHERS
- 4 NUTS

[5] Connect the FILM SENSOR CABLE to CONNECTOR CN07.

[6] Pull the FEED TRAY to the end of the PROCESSOR with the CONTROL BOX.

[7] Tighten the 4 NUTS.

Leveling the PROCESSOR



H164_0012BCB
H164_0012BC

Important

- The PROCESSOR must be leveled for correct operation.
- Do not loosen the LEVELING SCREWS excessively.

[1] Place the LEVEL on the nondrive side of the PROCESSOR.

[2] If necessary, adjust the LEVELING SCREWS.

[3] Place the LEVEL on the back of the PROCESSOR.

[4] If necessary, adjust the LEVELING SCREWS.

[5] Remove the tape from the SCREENS in the bottom of the DEVELOPER TANK and FIXER TANK.

[6] Check the RACKS for squareness. In the SERVICE MANUAL for the *Kodak X-Omat* 1000, 1000A and 1000J PROCESSOR 9B8949, do:

Section	Procedure
Adjustments	Adjusting the Squareness of the RACK AY

[7] Install all the RACKS and CROSSOVERS. See Components.

[8] Check that the EVAPORATION COVER is correctly installed and snapped into position on the DEVELOPER RACK. See Components.

[9] Check that the MAIN GEAR on each RACK correctly engages the WORM GEARS.

[10] Check that the DEVELOPER STAND PIPE and FIXER STAND PIPE are seated in the hole and that the O-RINGS make a seal.

[11] Fill the DEVELOPER and FIXER TANKS with water. In the OPERATOR MANUAL for the *Kodak X-Omat* 1000, 1000A, and 1000J PROCESSOR 9B8942, do:

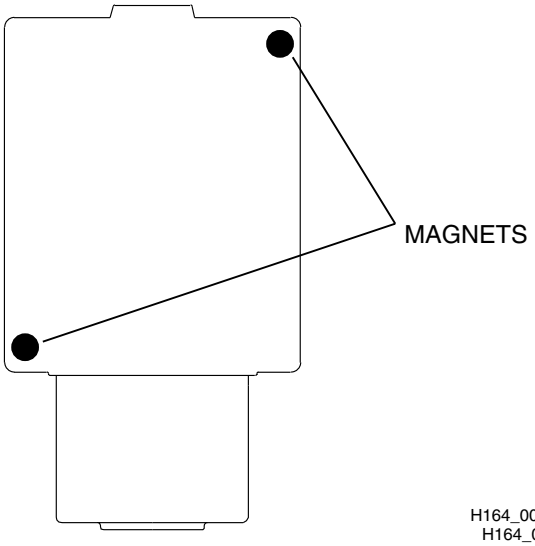
Section	Procedure
Replenishment Solutions	Filling the Tanks in the Processor

[12] Observe the depth of the water around the RACKS. The ROLLERS should be uniformly immersed in the solutions.

[13] If necessary, level the PROCESSOR again.

[14] Tighten the LOCKING NUT on each of the 4 LEVELING SCREWS.

Checking the Operation of the PROCESSOR



H164_0067ACA
H164_0067AC

Warning

- Dangerous Voltage
- Be careful of the DRIVE SHAFT, GEARS and other moving parts.

[1] Close the WASH WATER DRAIN/OVERFLOW VALVE AY.

[2] Enable the water.

[3] Place MAGNETS on the COVER INTERLOCK SWITCHES and the DRIVE MOTOR will operate without the PROCESSOR COVER.

[4] Connect and energize the PROCESSOR.

[5] Check that the following components operate correctly:

Component	Action
DRIVE SHAFT	a. Operates for 5 minutes b. Then operates intermittently
DRYER BLOWER	Operates for 5 minutes
WATER SOLENOID	a. Operates b. Fills the WASH TANK c. De-energizes when the WASH TANK is full
“Dev. Temperature” INDICATOR	Illuminates
RECIRCULATION PUMPS	Operates for 5 minutes

[6] Check the flow of water in the DEVELOPER and FIXER TANKS.

Caution

Be careful not to drain the TANKS during Step 7.

[7] Is the water moving in the DEVELOPER and FIXER TANKS?

Yes	No
Continue with Step 9.	a. To release some of the water from the TANK, remove either: • DEVELOPER STAND PIPE • FIXER STAND PIPE b. Check that water is moving in the TANK. c. Insert and seat either: • DEVELOPER STAND PIPE • FIXER STAND PIPE d. Add water to the TANK. e. If necessary, do the steps again.

[8] If necessary, repair any water leakage.

Warning
Dangerous Voltage

[9] De-energize the PROCESSOR.

[10] Remove the MAGNETS from the top of the PROCESSOR.

[11] Drain the DEVELOPER and FIXER TANKS by removing:

- DEVELOPER STAND PIPE
- FIXER STAND PIPE

[12] Insert and seat:

- DEVELOPER STAND PIPE
- FIXER STAND PIPE

[13] Check that the WASH DRAIN/OVERFLOW VALVE is closed.

Checking the PROCESSOR

[1] In the OPERATOR MANUAL for the *Kodak X-Omat* 1000, 1000A, and 1000J PROCESSOR 9B8942, do:

Section	Procedure
Replenishment Solutions	Mixing the Developer and Fixer Replenishers
Replenishment Solutions	Filling the Tanks in the Processor

Setting Up the PROCESSOR

[1] In the SERVICE MANUAL for the *Kodak X-Omat* 1000, 1000A and 1000J PROCESSOR 9B8949, do:

Section	Procedure
Adjustments	Adjusting the Developer Temperature
Adjustments	Adjusting the Developer and Fixer Replenishment Rates

[2] Determine the number of films that will be processed at the site.

[3] Use the number to calculate the replenishment rate.

Section	Procedure
Adjustments	Setting the “Regular” Replenishment Mode
Adjustments	Setting the “Flooded” Replenishment Mode
Adjustments	Adjusting the Temperature of the DRYER

[4] Install:

- CONTROL BOX COVER
- 4 SCREWS

[5] Process test films to check for correct operation of the PROCESSOR.

Publication History

Publication Date	Publication No.	ECO No.	Changed Pages	File Name	Notes
July 1997	9B8948	2504-470	All	ii3482_1_22jul97.doc	New Publication
June 1998	9B8948		All	ii3482_1_15jun98.doc	Revised
10SEP02	9B8948	98012	All	9b8948.fm	Revised

Kodak and *X-Omat* are trademarks.

Printed in U.S.A. • 9b8948.fm

EASTMAN KODAK COMPANY
Rochester, NY 14650

HEALTH IMAGING